

MASS. TC 1.2: N42/2



312066 0285 2752 2

GOVERNMENT DOCUMENTS
COLLECTION

MAY 16 1995

University of Massachusetts
Repository Copy

NEW ENGLAND TRANSPORTATION INITIATIVE

Sponsored by

The States of Connecticut, Maine, Massachusetts,
New Hampshire, Rhode Island, Vermont

January 1995

DRAFT

Plan of Cooperation



Consultant Team



Cambridge Systematics, Inc.

Vanasse Hangen Brustlin, Inc.

Parsons Brinckerhoff Quade & Douglas, Inc.

Howard/Stein-Hudson Associates, Inc.

Wallace, Floyd, Associates, Inc.

Hoyle, Tanner and Associates, Inc.

TAMS Consultants, Inc.



Digitized by the Internet Archive
in 2014

<https://archive.org/details/newenglandtransp00newh>

Table of Contents

Executive Summary.....	ES-1
1.0 Introduction and Background.....	1-1
2.0 Plan of Cooperation.....	2-1
2.1 Mission.....	2-1
2.2 Vision of New England's Transportation Future.....	2-1
2.3 Recommended Actions.....	2-2
2.3.1 Freight Transportation.....	2-2
2.3.2 Passenger Transportation.....	2-4
2.3.3 Tourism Initiative.....	2-9
2.3.4 Technology Applications.....	2-10
2.3.5 System Preservation.....	2-12
3.0 Implementation Strategy.....	3-1
4.0 Topics Not Addressed by the Plan of Cooperation.....	4-1
5.0 Conclusion.....	5-1

Appendix

- Policy Committee
- Scenarios by Policies
- Scenarios by Mode
- List of Authors

Executive Summary

The New England Transportation Initiative (NETI) is a cooperative venture of the six New England states to develop a coordinated strategic transportation planning vision. NETI is directed by a Policy Committee consisting of representatives from state Departments of Transportation, Environmental Protection, and Economic Development (see Appendix for Committee members). This Plan of Cooperation represents the outcome of the NETI effort.¹ The NETI Project represents an unprecedented attempt to develop a coordinated strategic approach to transportation planning in the New England region. The resulting Plan of Cooperation is intended to serve as a Business Plan for New England's transportation future. It identifies thematic and project-specific areas of agreement and action, and an implementation strategy.

The Project has focused on three overriding goals of transportation policy: enhancing 1) mobility and access for persons and goods; 2) environmental quality; and 3) economic vitality. At a regional level, we believe that most potential conflicts among these goals can be resolved. For most Americans, they define quality of life. The new era of global economic competitiveness makes it imperative that New England use transportation policy to promote economic vitality. The economic forecasts developed for the NETI study, based on national data, project the New England region growing at roughly two-thirds the rate of the nation as a whole. We have an opportunity to take actions that will help to ensure that New Englanders will share fully in the future prosperity of America. Transportation policy can minimize the economic disadvantages associated with New England's location in a far corner of the nation, and maximize the advantages of our location astride new global trade routes.

Three Alternative Scenarios for New England's transportation future were defined and analyzed (see Appendix). Scenario 1 was based on continued implementation of policies reflecting the Intermodal Surface Transportation Efficiency Act (ISTEA) and the 1990 Clean Air Act Amendments. Scenario 2 proposed a combination of multimodal capacity expansion projects, demand reduction strategies, application of new technologies, and regional planning efforts. Scenario 3 was based on a major shift in passenger transportation priorities from the highway and air modes toward the development of a New England-wide High Speed Ground Transportation (HSGT) system. On the freight side, it proposed the development of a New England Regional Intermodal Freight Alliance among the states to coordinate aspects of freight transportation planning and development in the region.

^{1/} This is the fifth product of the NETI Project following the Inventory, Forecasting, Alternative Scenarios, and Alternative Scenarios Analysis reports.

The Policy Committee endorses the Scenario 2 approach to passenger transportation and some environmental issues, and the Scenario 3 approach to freight transportation. It also endorses a Scenario 1 policy developed under the Clean Air Act Amendments for the adoption of a Low Emitting Vehicle (LEV) standard for the region. The Plan of Cooperation reflects these policy choices.

The following are the major recommendations of the NETI project. Specific actions to support these recommendations are described in the main body of the text.

- 1. Create the New England Regional Intermodal Freight Alliance to assist the states in the development and implementation of a strategic, intermodal, and regional approach to the movement of goods in New England.**

The dictionary defines an "Alliance" as "a union, relationship, or connection by common interest." The New England states have a common interest in ensuring that freight can move efficiently and cost effectively within the region and between the region and the outside world. This is essential for maintaining the region's economic competitiveness and will affect business locational decisions and environmental quality. While trucks are and will remain the predominant mode of freight transportation in the region, an exclusive reliance on trucking will place increasing stress on congested highways with impacts on air quality attainment. As called for in the ISTEA legislation, an intermodal approach is required which ensures that products move by the most optimal combination of modes including trucks, rail, ship, and air. The Alliance will serve as a regional planning and development forum for the six states, facility operators, and private carriers. It will take on specific functions as desired by the states such as the development of new financing mechanisms, negotiation with other states and trans-regional interests, and the promotion of facility improvements such as double-stack rail access to ports and port dredging.

- 2. Address increasing levels of congestion in passenger transportation by undertaking regionally coordinated multimodal capacity expansion and demand management projects in congested priority regional travel corridors defined by interstate highways I-95 (five of the six states), I-93 (Massachusetts and New Hampshire) and I-91 and I-84 in Connecticut.**

New England faces a future in which pockets of urban highway congestion will grow more severe and extend further beyond the core of urban areas in certain corridors. I-95, which traverses five New England states, could potentially be congested during peak hours from the New York border to Brunswick, Maine; I-93 (and related routes) could be congested from Manchester, New Hampshire to Cape Cod; most sections of I-91 and I-84, from the vicinity of Hartford west to Danbury and south to New Haven, are anticipated to experience congestion during peak hours. Congestion on these and parallel routes affects travel throughout the region. Logan Airport, which accounts for 60 percent of all enplanements in New England, will face increasing congestion. All of these trends will negatively impact the ability of New Englanders to travel to work, shopping, and recreation; increase the cost of transporting goods by truck; and discourage outside business and recreational travelers from coming to the region.

Several strategies are recommended. Highway (general purpose or HOV) and rail capacity expansion and/or operational improvements should be implemented as appropriate to serve demand. However, this investment should be targeted to those municipalities, subregions, employment and activity centers which aggressively promote Travel Demand Management (TDM) and growth management strategies to minimize the generation of new travel demand resulting from the expansion or improvement in any modal service. This is necessary to achieve maximum regional benefits from and to protect transportation investments. A regional coordinated airport planning effort should be undertaken to distribute air services more efficiently across the region and to ensure effective access to the national air system for all of New England.

3. Undertake a regional tourism transportation initiative to facilitate the movement of tourists into and throughout the region.

The tourism industry represents one of the most vibrant sectors of the New England economy. It promotes economic vitality precisely through the preservation of environmental quality. Its stability and growth must not be taken for granted. It is uniquely transportation dependent requiring effective access from the rest of the nation and foreign markets, internal movements around New England, and local mobility at the final destination. The New England states should undertake a regional tourism transportation initiative including such elements as a more aggressive joint marketing campaign; enhanced intermodal connectivity; a regional intermodal information initiative; development of strategies for improving external access to the region's tourist centers; promotion of tourist trains and charter bus operations; and development of creative local access strategies.

4. Undertake four initiatives on a regional basis in the application of new technologies to the solution of transportation problems: Intelligent Transportation Systems (ITS); Telecommunications; Low Emitting Vehicles (LEVs); and Alternatively Fueled Vehicles.

New technologies offer another way of addressing congestion and air quality problems other than by building new physical capacity or reducing demand. New England, as a national center of high technology, ought to vigorously embrace the application of these technologies to transportation problems. ITS systems such as Automated Traveler Information Systems (ATIS) and Automated Vehicle Identification (AVI) systems at toll plazas offer strategies for improving the operational efficiency of highway travel. Telecommunications offers a way of reducing the demand for business-related travel. Low emitting and alternatively fueled vehicles offer the potential to significantly mitigate two of the most serious externalities associated in part with transportation – air pollution and energy consumption – regardless of how issues of mobility and congestion are addressed. The New England states should support the implementation of an LEV strategy which significantly reduces the emissions rates of ozone precursor chemicals even assuming continued growth in vehicle miles traveled. The states should jointly develop a regional alternatively fueled vehicle infrastructure program (i.e., service and maintenance facilities) to support the application of non-gasoline powered vehicles in commercial fleets.

5. Continue efforts to preserve the existing transportation infrastructure in good working order. The most critical link in this system, despite the new initiatives described above, is the roadway system which will continue to accommodate the majority of passenger and freight trips and which will experience increased volume under any of the proposed scenarios.

The New England states should use their collective political strength to ensure national support for the preservation of this system; act jointly in the debate on ISTEA reauthorization; and maintain stable state and local revenue strategies, including adjustments in fuel taxes, market pricing programs, and public/private partnerships, which are adequate to meet the needs of system preservation.

1.0 Introduction and Background

Early in the NETI process, the following nine objectives were established:

- Minimize intraregional competition;
- Use transportation investment to promote economic vitality;
- Protect the environment while minimizing regulatory barriers to investment;
- Use technological advances to the maximum extent possible;
- Use changes in social and work patterns to minimize travel demand growth;
- Coordinate land use and transportation planning;
- Promote intermodalism;
- Promote innovative and fiscally sound financing policies; and
- Promote intra- and inter-regional connectivity.

The Plan of Cooperation is consistent with these objectives. As the study proceeded, three overriding goals emerged which incorporate most of these concepts:

- Enhance mobility and access for persons and goods;
- Enhance environmental quality; and
- Enhance the economic vitality of the region.

The Plan of Cooperation endeavors to achieve these three goals. The recommendations reflect an overall conclusion that a continuation of current transportation policies and practices are not sufficient for the New England states to improve, or even retain, their competitiveness in the national and international economies. In particular, the New England states must take aggressive actions involving cooperation of the private and public sectors to improve the cost-efficient movement of freight on an intermodal basis.

The Plan of Cooperation is based on the conclusions of the Alternative Scenarios Analysis Report. It was developed following an extensive public participation process in which the Analysis Report findings were discussed with the three NETI regional advisory committees – the New England Regional Technical Advisory Committee (NERTAC), Business Roundtable, and Intergovernmental – and five of the six individual state Advisory Committees.

2.0 Plan of Cooperation

■ 2.1 Mission

The NETI Project represents the most significant attempt to-date to develop a coordinated strategic approach to transportation planning in the New England region. It is an attempt to use transportation policy on a regional basis to help preserve New England's quality of life and competitiveness in the national and global economies. It has provided a forum for the public sector managers of New England's transportation, economic and environmental agencies, and interested private parties, to exchange views on their vision for New England's transportation future. It has provided quantitative and institutional analyses of these visions. The resulting Plan of Cooperation is intended to serve as a Business Plan for New England's transportation future. It identifies thematic and project-specific areas of agreement, action, and implementation strategy.

■ 2.2 Vision of New England's Transportation Future

The NETI Project has focused on three overriding goals of transportation policy: enhancing 1) mobility and access for persons and goods; 2) economic vitality; and 3) environmental quality. At a regional level, it should be possible to manage and resolve conflicts among these goals. For most Americans, they define quality of life – the ability to move about freely; to enjoy a healthy and attractive environment; and to attain economic security. Lack of mobility and access leads to economic stagnation and environmental degradation. New England's environmental quality – its natural resources, historic sites, and vibrant town centers – is what attracts it to others who bring tourist dollars and new businesses to the region. Thus, its environmental quality is essential to its economic vitality. Similarly, the funding and political will to invest in environmental protection is highest during times of economic growth.

The nation and the world have entered a new era of economic competitiveness. One can look around the country at cities, states and regions which have pursued unique competitive niches and advantages – Columbus, Ohio's development as a major intermodal freight center positioned between New York, Chicago and Atlanta; South Dakota as a center for the back office and telecommunications functions of large financial institutions; Pennsylvania and New York's investment in port and double-stack rail facilities; Miami as the financial and tourist gateway to Latin America; West Coast ports as jumping off points to the Pacific Rim countries; and the entire Sunbelt using its climate to its advantage in competing with the rest of the nation.

New England has numerous advantages in this competition including strong institutional sectors (universities, hospitals, museums); a vibrant tourist industry; a desirable environment; strong financial and business services (insurance, financial services, high technology); a skilled and highly educated work force; and a strong base in knowledge-based industries. Transportation policy can play a major role in maximizing these advantages.

New England also faces many challenges. Some, such as the harsh winter climate, cannot be changed nor directly affected by transportation policy. Others, such as our geographic location, while immutable in and of themselves can be turned into advantages or disadvantages partly through transportation policy. For example, our location in a far corner of the nation requires that we maintain efficient and cost-effective transportation connections to the rest of the country. This location also puts New England astride major new trade routes such as the land bridge between Asia and Europe which has developed as a result of new container ships which are too large to traverse the Panama Canal. So far, we have not made the transportation investments necessary to take full advantage of these opportunities.

Thus, the NETI Plan of Cooperation's vision of New England's transportation future is one in which the six states pursue a variety of multimodal strategies that enhance mobility and access for people and goods; economic vitality; and environmental quality.

■ 2.3 Recommended Actions

This section describes the specific actions recommended under each of the thematic areas outlined in the Executive Summary.

2.3.1 Freight Transportation

There are tremendous opportunities for enhancing freight transportation throughout the region by developing and implementing a coordinated, strategic, interstate and intermodal infrastructure investment strategy.

Investment is required in highways, railroads, ports, and airports, and in the intermodal connections among the modes. If successful, New England could enhance the efficiency of freight movements to and from its own markets and businesses, serve as a key link in the land bridge between Asia and Europe, and as a major shipping center between the Midwest and Europe. It could become a major force in "Atlantic Rim" trade. If it fails, it faces a future of increasing transportation costs impacting business locational decisions; increasing dependence on truck transportation for goods movement with implications for highway congestion and maintenance, and air quality; and declining ports and the jobs associated with them.

The key to achieving this vision is the creation of the New England Regional Intermodal Freight Alliance to serve as a regional planning and development forum for the New England states. The purpose of this Alliance would be to assist the states in the development of a strategic intermodal, regional approach to the movement of goods in New England.

In the movement of goods, New England faces intense competition from mid-Atlantic states, as well as powerful national and international interests including organized labor, shipping associations, and railroads. A new regional approach, going beyond a planning study and possibly leading to the development of new, cooperative institutional arrangements, is needed to maximize long-term regional benefits and equitably distribute the costs and benefits of goods movement across the region.

The proposed Alliance would initially provide a forum in which the state agencies already represented in the NETI process, plus the public and private operators of freight facilities and transportation services, could address issues of mutual concern.¹ The individual states would maintain full sovereignty except where they chose to specifically delegate authority to new institutional structures. The Alliance could function as an enabler for the states — assisting in resolving problems and taking on such functions as determined by the states. It would provide a central forum in which the private sector could engage government in problem solving and in which government could help to catalyze private sector action.

Some of the issues to be addressed by the Alliance may include the following:

- Develop and implement an intermodal regional freight investment strategy;
- Secure double-stack rail access (or other appropriate technologies) to the ports of Boston, Davisville, and the Central Vermont Railroad; and investigate the potential for further development of New England's rail freight potential;
- Achieve the necessary investment in port infrastructure and dredging at designated key facilities to ensure that New England's ports remain competitive;
- Develop a strategy to create New England air freight niche airports in conjunction with the development of a regional air passenger strategy by others;
- Negotiate agreements on behalf of the region with labor, shipping associations, and railroads;
- Secure and distribute federal funds and raise funds through mechanisms such as pooled bond sales or other creative financing mechanisms;

1/ While described in the Alternative Scenarios as a "Corporation," the NETI process should not prejudge the final form of this effort without more direct input from those interests which will be most affected. It is also not the intention of NETI to create new government bureaucracy.

- Distribute costs and revenues of freight transportation equitably across New England;
- Negotiate with New York state and Canadian provinces regarding the development of suitable freight transportation gateways;
- Develop rail/truck/port intermodal terminals;
- Acquire, retain and enhance abandoned rail lines suitable for freight transportation such as the Concord to White River Junction line recently acquired by the state of New Hampshire;
- Standardize truck regulatory policy across the region, building on the current New England commercial vehicle initiatives;
- Facilitate the development of railroad interlining agreements;
- Enhance the efficiency of Canadian border crossings;
- Operate such facilities as may be requested by individual states; and
- Develop a regional freight database to support its planning efforts.

2.3.2 Passenger Transportation

New England faces a future in which pockets of urban highway congestion will grow more severe and extend further beyond the core of urban areas in several important corridors especially I-95 and secondarily I-93 and I-91/I-84. Logan Airport, which handles 60 percent of all New England enplanements, will become increasingly congested. Vehicles Miles Traveled (VMT) will continue to increase at a rate dependent on population and economic growth, changing demographics, and the success of strategies intended to minimize its growth. In areas of congestion, New England should pursue a range of strategies which is predominantly oriented toward minimizing VMT growth in congested areas by reducing peak-period demand and providing transportation alternatives, but also includes multimodal capacity expansion to accommodate this growth. This strategy needs to be regional in nature, and maximize the use of new technologies intended to improve the efficiency of highway operation.

Strategies include highway and rail improvements and expansions; HOV/bus facilities; growth management planning; Travel Demand Management (TDM) strategies; regional airport planning; and market-based pricing. These strategies should be targeted and prioritized toward the most congested regional travel corridors. Specific technological components of this strategy such as Intelligent Transportation Systems (ITS) and Telecommunications are discussed separately in Section 2.3.4.

This strategy recognizes that the region (and the nation as a whole) has entered the post-interstate construction era in which intermodal solutions and system preservation are now the priorities. It approaches the transition to a new era in an evolutionary and incremental manner stressing a variety of new modes and technologies, with appropriate emphasis on physical capacity expansion, demand reduction, and more efficient operations. It seeks to use existing rights-of-way or avoid the need for new infrastructure entirely when possible. As such, it seeks to implement proven approaches while gradually introducing new technologies and institutional arrangements.

The New England states should establish priority regional travel corridors, agree to coordinate with each other on the development and implementation of strategies for addressing congestion in these corridors, and give preference to the advancement of projects within these corridors. Priority corridors are defined by the major interstate highway which traverses the corridor. However, the definition is intended to include all NHS roadways in the corridor and all other major modes of transportation which parallel this route.

The top regional priority travel corridor for New England is I-95. It is New England's main street, traverses five of the six states, has the highest level of congestion today, and under all scenarios is forecast to experience congestion on most segments between the New York border and Brunswick, Maine in the year 2020. It is one of four national priority corridors and is already the subject of a larger regional ITS initiative (the I-95 Corridor Coalition) which includes the mid-Atlantic states, as well as New England. While I-95 does not traverse Vermont, it too is impacted by congestion on the New York to New Haven segment which is used by trucks and tourists traveling to Vermont from outside New England via I-91.

The second priority corridor is I-93 which is projected to experience congestion from Manchester, New Hampshire to Cape Cod (U.S. Routes 3 and 6 are included in the I-93 corridor south of Boston). While I-93 traverses only Massachusetts and New Hampshire, it is a major lifeline between Vermont and the Boston area.

The third priority corridors are I-91 and I-84 which, although most congestion is confined to a single state -- Connecticut -- are major lifelines to western New England including Massachusetts and Vermont, and to New Hampshire and Maine via I-90 and I-495.

In addition to highway congestion, the other major issue in New England passenger transportation centers around congestion at Logan Airport, and its ability to serve as New England's gateway to the outside world.

The following are the types of projects which should be undertaken in these corridors, with specific examples cited.

Highway Capacity Expansion

Massachusetts is considering expanding the section of I-95/MA 128 (and a small section of I-93/MA 128) between Wellesley and Randolph. The expansion would be from six to eight lanes with the additional capacity being for either general purpose or HOV traffic. This

would complete an eight-lane circumferential highway around Boston. This is an excellent example of a project which, while located entirely in one state, is of critical importance to the connectivity of the entire New England region from points to the west and south.

Massachusetts and New Hampshire are considering widening Route 3 and the F.E. Everett Turnpike respectively from four to six lanes. These roadways constitute a major parallel travel corridor to I-93 itself. The New Hampshire project is further advanced in planning and commitment. In addition, New Hampshire is proposing to widen I-93 south of Manchester from four to six lanes (it is already six lanes on the Massachusetts side) and I-293 connecting I-93 to the Everett Turnpike.

There are no capacity improvement projects currently planned for I-91 in Connecticut. Projects programmed for I-84 include widening from four to six lanes between I-691 and Waterbury; and extension of the HOV facility from East Hartford to Founders Bridge in Hartford. The State of Connecticut will be initiating an I-84 West Corridor Analysis. It will be a Major Investment Study/Environmental Impact document exploring needs and alternatives for improving mobility in the I-84 corridor.

Vermont anticipates selective strategic investments to enhance mobility throughout its National Highway System corridors. In the late 1980s, the Maine Turnpike initiated a project to widen the Maine Turnpike from four to six lanes between York and Portland, but capacity expansion was placed on hold by Maine's Sensible Transportation Policy Act of 1991. As traffic continues to grow on this major artery into Maine, congestion and safety concerns are also increasing. Some form of substantial mobility improvement, whether capacity expansion, operational improvements, and/or demand management, should be anticipated in this key corridor in order to preserve and improve Maine's economic vitality.

Under current policies, each state would individually pursue these projects, competing for federal funding with each other and with other projects within their states. The operational strategies for the projects – general purpose lanes versus HOV, toll strategies if any, ITS applications, etc. – would be decided by the individual states. The Plan of Cooperation declares these projects to be of regional significance. The New England states should jointly support federal funding for all of these projects and develop common operating strategies.

Rail

The New England states already support the Northeast Corridor Transportation Plan (NCTP) for three-hour rail service between Boston and New York City. That support is reiterated in this Plan of Cooperation. The Plan of Cooperation supports the concept of interconnecting passenger rail service from the south and west with service to northern New England and commits the states to attempt to develop a common approach to achieving this goal in a fiscally prudent manner.

Commuter rail is an effective strategy for reducing automobile trips on congested radial routes into densely developed urban cores. Thus, continuing the improvement and expansion of commuter rail service into Boston and New York City is of regional significance as part of the strategies to minimize highway congestion in the I-95 and I-93 corridors. The New England states should as a region support these projects, and give particular attention to the potential for greater interstate cooperation in the expansion and improvement of

commuter rail services between downtown Boston and points in Rhode Island and New Hampshire. Presently, only limited peak-period service is provided between Boston and Providence. These projects are regionally significant not because of their impacts on specific urban areas – either Boston or New York City – but because of their potential for removing local commuter trips from regional travel corridors hence improving the movement of people and goods across the region.

The New England states, as a region, should study other possible applications of commuter and intercity rail services. The states should commit to acquiring and maintaining rail infrastructure with possible future passenger transportation applications – particularly where they can be used for freight services in the short term. These studies should include:

- Further advancement in application of high speed ground transportation technology to the Northeast Corridor;
- High speed rail on the Inland Route along the I-90 corridor between Boston and New York presently under study by Massachusetts and New York;
- Expansion of commuter rail services between Hartford, Waterbury and New Haven in the I-91 corridor;
- Boston to Montreal service via the Concord to White River Junction line recently acquired by New Hampshire in the I-93/I-89 corridors; and
- Expansion of passenger rail service north of Portland.

Bus and HOV

The New England states recognize that not all corridors have the travel characteristics and/or physical rights-of-way to make rail a cost-effective solution. The Plan of Cooperation commits the New England states to the maintenance of a healthy intercity and commuter bus industry, and to actively consider bus service options in corridor planning. As discussed above, particular attention should be paid to opportunities for incorporating HOV facilities into highway capacity expansion projects.

Regional Airport Planning

New England has one congested airport – Logan International in Boston. Forecasts for 2020 are for congestion to worsen at Logan and spread to only one other airport – Bradley International in Hartford – and even that is uncertain. Congestion at Logan is experienced on both the air side – affecting the timely arrival and departure of flights during peak periods – and on ground side access. As a whole, New England's existing second tier commercial airports service only 60 percent of the potential demand in their service catchment areas. Additional abandoned military airfields are likely to become available in the coming years.

Logan Airport is New England's air transportation gateway to the outside world and the tenth highest volume airport in the nation. Much of the air traffic congestion at Logan is related to the high volume of trips to short and intermediate destinations such as New York

and Washington (the I-95 corridor), and the large number of short-haul commuter trips from other points in New England – particularly northern New England.

New England possesses ample airport physical capacity but has a need to develop a regional planning approach to best use that capacity. The goal of this planning effort should be to: 1) focus Logan, and secondarily Bradley, on the provision of long-haul national and international services; 2) develop a critical mass of short- and intermediate-haul services at the second tier airports at competitive fares through negotiations with air carriers; and 3) ensure that sufficient capacity remains at Logan for short-haul and commuter services from other New England points connecting to long-haul services.

The Plan of Cooperation supports efforts to achieve these goals and recommends their expansion to include the wider constituencies represented by the NETI process; consideration of air freight services; and development of a new regional air travel demand model which is less "Logan-centric" than previous efforts and which can provide an analytical basis for the implementation of a regional strategy and for negotiations with air carriers.

Travel Demand Management (TDM) and Growth Management Planning

The New England states should give consideration, as a region, to targeting transportation infrastructure investment to activity centers (such as office and industrial parks, shopping centers and major recreational destinations), municipalities, and subregions (such as metropolitan areas, counties, and rural planning districts) which actively promote TDM and growth management policies. TDM strategies include telecommunications, ride-sharing programs, flexible work hours and other strategies intended to make more efficient utilization of existing transportation capacity. Growth management planning is intended to discourage sprawl development which inevitably leads to longer and more single-occupant vehicle (SOV) trips. The pursuit of these policies can help to maximize the benefit of and protect the investment in transportation infrastructure.

While this might seem like a strictly local or state issue, the cumulative result of many individual local planning decisions is to increase congestion on the major regional travel corridors. Right now, most of the incentives for municipalities in our property tax-based systems of finance favor sprawl development. By targeting infrastructure investment, a counter-incentive can be created. Similarly, the New England states compete with each other for businesses on the basis of what government can offer business with very few expectations in return other than the immediate tax revenue and job creation benefits. New England must still compete for businesses with the rest of the nation and world, but internally the states should cooperate in developing realistic expectations and incentives for businesses to make transportation-responsible decisions. This is very important for protecting air, land and water resources and maintaining the New England quality of life.

Market Pricing Demonstrations

Automobile travel, almost alone among goods and services in the United States, is shielded from market prices. Fuel taxes are low relative to other developed countries. Many of the costs associated with auto travel, such as insurance, are fixed and vary only slightly if at all in relation to usage. Such costs are also paid "off-line" and are not considered by most people as part of the daily cost of auto travel.

One of the most effective ways of expanding highway capacity without building new infrastructure is to spread the peak period so that the highest volumes are distributed over longer periods of time. This, rather than mode shifting, has been the overwhelming public response to the increasing congestion levels brought about by the VMT growth of the last decade during which there has been relatively little capacity expansion. Drivers who shift their travel times receive no direct monetary benefit for their trouble.

The development of ITS technologies such as Automated Vehicle Identification (AVI) offers an opportunity to establish differential price structures for highway travel, and to do so barrier (i.e., toll plaza) free by means of transponders and receivers implanted in roadways and vehicles. Electronic toll collection has been successfully implemented on several toll facilities located throughout the country. Market-based pricing demonstration projects are encouraged by the ISTEA legislation, with the San Francisco-Oakland Bay Bridge project in California being the most advanced in terms of implementation. The Plan of Cooperation urges the New England states to develop one or more interstate demonstration projects oriented toward the urban commuter and seasonal recreational travel markets. In order to maximize public support for this effort, the total revenue collected from these demonstration projects should either be equal to the revenue collected today (revenue neutral), or any additional revenue should be dedicated to capacity improvements in the corridor.

ISTEA Requirements and Reauthorization

ISTEA requires that each state develop six management systems and statewide transportation plans and investment programs. Some of the management systems, particularly the most developed ones such as bridge and pavements, are fairly state specific. However, the least developed systems – congestion and intermodal – could benefit from a regional approach. With respect to statewide transportation planning, most of the states are well advanced in the development of individual statewide travel demand models. The lack of a regional multimodal New England-wide travel demand model made it extremely difficult for the NETI study to quantitatively analyze regional transportation issues. The Plan of Cooperation recommends the development of New England regional congestion and intermodal management systems, and an intermodal regional travel demand forecasting model.

The Plan of Cooperation also urges the New England states to develop a common approach toward ISTEA reauthorization legislation, and to use their political influence in Congress and at the Gubernatorial level to secure enactment of a common New England position.

2.3.3 Tourism Initiative

The tourism industry represents one of the most vibrant sectors of the New England economy. It promotes economic vitality precisely through the preservation of environmental quality. Its stability and growth must not be taken for granted. It is uniquely transportation dependent – requiring effective connections with the rest of the nation and foreign markets, internal movements around New England, and local mobility at the final destination.

The New England states should undertake a regional tourism transportation initiative including the following elements to ensure effective access to our tourism industries:

- A more aggressive regional marketing campaign;
- Improved regional intermodal connections;
- A regional, intermodal travel information program;
- Explicit consideration in priority corridor travel studies of impacts on regional tourist destinations;
- Promotion of tourist trains and a vibrant charter bus industry; and
- Regional cooperation in the development of local access strategies at tourist destinations to reduce seasonal auto traffic in regional corridors and at the destinations themselves: strategies might include expansion of rental car opportunities at major tourist destination terminals of all modes; enhancement of local shuttle bus operations; promotion of bicycle travel and its facilitation in conjunction with all regional travel modes; and market pricing demonstration projects as discussed above.

2.3.4 Technology Applications

New technologies offer another way to solve congestion problems other than by building new physical capacity or reducing demand. New England, as a national center of high technology, should vigorously embrace the application of these technologies to transportation problems. This includes Intelligent Transportation Systems (ITS); Telecommunications; Low Emitting Vehicles (LEVs); and Alternatively Fueled Vehicles. ITS provides strategies for improving the operational efficiency of highways. Telecommunications is a way to reduce the demand for business-related travel. Low emitting and alternatively fueled vehicle technologies offer the potential to significantly mitigate two of the most serious externalities partially associated with transportation – air pollution and energy consumption – regardless of how issues of mobility and congestion are addressed.

Intelligent Transportation Systems (ITS)

ITS (formerly known as IVHS or Intelligent Vehicle Highway Systems) offers the potential for applying technology solutions to highway operations in order to improve their efficiency and increase capacity without extensive new physical construction. This is the major focus of the I-95 Corridor Coalition effort mentioned earlier. Several ITS projects are currently in the planning and deployment stages in New England including the I-95 corridor in southwestern Connecticut and elsewhere; a Boston metropolitan area plan beginning with the I-93 corridor; efforts to standardize and make more efficient commercial vehicle regulation; and the application of Automated Vehicle Identification (AVI) to toll plazas on I-95 in Maine and New Hampshire, and on the Tobin Bridge (I-95 corridor) and Third Harbor Tunnel (I-90 corridor) in Boston.

The NETI Plan of Cooperation endorses as being of regional significance the application of ITS technology in the priority regional travel corridors, and urges all of the New England states to support these efforts and to implement them on a regional basis.

Telecommunications

Several New England states, including Massachusetts and Vermont, have initiated telecommunications demonstration projects. The Plan of Cooperation urges that all of the New England states join together in a regional telecommunications demonstration project. Telecommunications offers a way to reduce the demand for travel and avoid new infrastructure construction. Telecommuting can reduce auto commuting trips while teleconferencing can reduce the demand for business travel. A regional demonstration project can enhance New England's image as a center of high technology and innovative public policy, while promoting the local telecommunications industry. It also offers an opportunity to systematically study all of the implications of telecommunications on travel and development patterns. For example, to what extent will telecommunications enhance the attractiveness and feasibility of living in rural areas of the region, and with what impacts?

A 1991 study by Arthur D. Little projected that telecommunications could substitute for 10 to 20 percent of all trips nationally resulting in a \$23 billion benefit in reduced emissions, fuel savings, travel time and roadway maintenance. In contrast, savings associated with ITS, high speed rail, and alternative fuels are estimated at \$10 to 13 billion. The 1993 Strategic Assessment Report by the Massachusetts Aeronautics Commission estimated that by 2010 telecommunications could replace up to seven percent of projected enplanements at Logan Airport. The Telecommuting Research Institute projects that by 2002 between 2.3 and 4.5 percent of work trip VMT could be eliminated by telecommuting.

Low Emitting and Alternatively Fueled Vehicle Technologies

Despite the rapid increases in VMT over the past two decades, the air in New England is significantly cleaner today than it was in 1970. As reported in the Boston Globe on November 4, 1994, Massachusetts officials have requested that Boston be removed from the list of cities with carbon monoxide violations. These improvements have been achieved through a combination of state actions and improvements in automobile technology. The Environmental Protection Agency (EPA) has reported that in New England, "between 1984 and 1993, ground-level ozone levels dropped by 12 percent, carbon monoxide levels by 37 percent, nitrogen dioxide levels by 12 percent, sulfur dioxide levels by 26 percent and lead levels by 89 percent."

The Ozone Transport Commission (OTC), composed of 12 Northeast states and the District of Columbia, petitioned EPA to impose a Low Emitting Vehicle (LEV) standard on the region. Presently, only California has an LEV program. As shown in the Analysis Report, the LEV Program as defined by the OTC petition would reduce ozone precursor chemical emissions in the region by over 70 percent during the next 25 years even given continued VMT growth. In comparison, differences in the level of VMT growth would have much smaller relative impacts. The Plan of Cooperation endorses implementation of an LEV Program which will reduce the level of ozone precursor chemicals even under assumptions of continued increases in VMT.

The National Energy Policy Act has initiated the introduction of alternatively fueled (non-gasoline powered) vehicles into vehicle fleets. This is considered an initial step in the introduction of alternative fueled vehicles among the general public. To facilitate the success of this program, there is a need for a regional fueling and servicing infrastructure. The Plan of Cooperation urges the New England states to work through the Department of Energy's Clean Cities and Clean Corridors programs to develop a regional strategy for the creation of such an alternative fuel infrastructure. The focus of the Clean Corridor Energy Program is the North/South Atlantic Corridor, consistent with the recommended focus on the I-95 corridor for NETI implementation efforts.

2.3.5 System Preservation

The New England states must continue efforts to preserve the region's existing transportation infrastructure in which billions of dollars have been invested. The most critical link in this system, despite the new initiatives described above, is the highway system which will continue to accommodate the majority of passenger and freight trips and which will experience increased volume under any of the proposed scenarios.

The New England states should use their collective political strength to ensure national support for the maintenance and preservation of this system through full funding of ISTEA, airport and port programs; and maintain state and local revenue strategies, including adjustments in fuel taxes, market pricing programs, and public/private partnerships, which are adequate to meet the needs of system preservation. Further study is recommended to determine the most effective and politically viable means of financing infrastructure requirements.

3.0 Implementation Strategy

The NETI agenda proposed in the Plan of Cooperation is ambitious. Yet, because it is strategic and future oriented, none of it is on any state's critical path. There is no deadline requiring the creation of the New England Regional Intermodal Freight Alliance, the implementation of congestion pricing demonstration projects, or the development of a regional air passenger strategy. The participants in the NETI process are committed to ensuring that real actions result from this effort. Therefore, the following steps are recommended.

- Participation (buying-in) at the highest political levels is required – i.e., Secretaries or Commissioners of Transportation, Environmental Policy, and Economic Affairs; and Governors. This buy-in must be institutionalized for the long term by means of a formal, written Memorandum of Understanding (MOU). This joint participation occurred in the establishment of the NETI Project, but has not continued due to the coincident timing of the NETI recommendations and the 1994 elections. Scheduled meetings with the New England Governor's Conference have not occurred. In 1995, three New England states will have new Governors. It is essential that high-level buy-in occur quickly. In some cases, due to turnover in policy and senior management, it will be the responsibility of career civil service employees to bring the NETI agenda to the attention of the new leaders.
- A high-level champion is required in each state. This person must have policy-level responsibilities and frequent, direct contact with an agency head.
- Once buy-in has been achieved, regularly scheduled meetings should be held among agency heads or their designees which include monitoring progress on the NETI agenda.
- Ongoing staff-level support is essential. These staff must view the advancement of the NETI agenda as part of their job description. These individuals could be state employees, consultants, or some combination.
- A short- and medium-range implementation plan of achievable actions should be agreed to by the Policy Committee with formal milestone dates established.
- Participation in the NETI process should be broadened to include, on an advisory basis, more representation of public and private sector managers involved in freight, air and port operations and planning.
- The NETI citizen advisory committees should play integral roles in monitoring NETI progress and advocating the NETI agenda. In particular, the Business Roundtable needs to be more fully engaged than was the case during the study phase.

The following are recommended immediate next steps:

- Brief existing and in-coming Governors, Secretaries and Commissioners;
- Identify high-level champion in each state for the next phase;
- Define short-term priority actions;
- Apply for follow-on grant or otherwise determine strategy for financing implementation activities;
- Establish the logistical roles to be played by the states;
- Establish regular meeting schedule and method for maintaining citizen and business community involvement; and
- Broaden public sector participation to include freight, airport, and port representatives on an advisory basis.

4.0 Topics Not Addressed by the Plan of Cooperation

Throughout the course of the NETI Project, a wide range of issues were raised by members of the Policy Committee or through the public participation process. Due to the limited resources of the study, it has not been possible to address all such issues. As the study has advanced, the focus has tended to narrow to the major regional transportation modes – highway, rail, air, and ports – and to a few key environmental issues such as air quality, energy consumption, and land use. The lack of attention to other issues should not be interpreted as a rejection of their significance. However, in order to produce meaningful results in a few key areas, the study had to be focused. It is certainly possible that as follow-up activities proceed, greater attention could be paid to some of these issues. Included are the following:

- Local public transportation;
- Urban circulation strategies;
- General aviation;
- Bicycle travel;
- Pipelines;
- Ferry services;
- Water resources; and
- Other environmental issues such as the possible impact of Electromagnetic Fields (EMF).

5.0 Conclusion

The Plan of Cooperation represents a remarkable achievement in interstate cooperation and regional intermodal planning. Hopefully, it can serve as a national model and will lead to the implementation of many innovative transportation initiatives in the New England region. While agreement on all transportation issues does not exist among the six New England states, a cooperative planning process has been set in motion for addressing such issues as they arise in the future.

Appendix

Policy Committee

Peter Szabo
Deputy Commissioner for Planning and Policy
Connecticut Department of Transportation

Joe Belanger
Director of Planning and Standards
Connecticut Environmental Protection Agency

Gedeon Picher
Director, Office of Policy Analysis
Maine Department of Transportation

Dennis Coffey
Director of Railroad Policy
Massachusetts Executive Office of Transportation and Construction

Sonia Hamel
Director of Air Policy and Planning
Massachusetts Executive Office of Environmental Affairs

Charles O'Leary
Commissioner
New Hampshire Department of Transportation

Edmund Parker, Jr.
Chief Design Engineer
Rhode Island Department of Transportation

William Parsons
Deputy Director
Rhode Island Department of Economic Development

Jeffrey Squires
Director of Planning
Vermont Agency of Transportation

Greg MaGuire
General Counsel
Vermont Agency of Development and Community Affairs

Scenarios by Policies

Policies	Scenarios		
	Current Policies	Moderate Change	Major Change
Driving Force	<ul style="list-style-type: none"> Market Existing government policies 	<ul style="list-style-type: none"> Market Voluntary cooperation Incentives/disincentives 	<ul style="list-style-type: none"> Government catalyzing private sector investment Government mandates Public/private social compact
Institutional Arrangements	<ul style="list-style-type: none"> Existing cooperative efforts 	<ul style="list-style-type: none"> New intra-New England cooperative efforts Improved cooperation with New York, Canada, and private shippers/carriers 	<ul style="list-style-type: none"> New England Intermodal Alliance Regulatory standardization at all levels of government Removal of unnecessary institutional barriers
Revenue Sources	<ul style="list-style-type: none"> Existing fuel taxes and user charges 	<ul style="list-style-type: none"> Incremental fuel tax increases Congestion pricing demonstrations 	<ul style="list-style-type: none"> Major private sector investment Meaningful fuel tax increases Major congestion pricing implementation
Revenue Distribution	<ul style="list-style-type: none"> Current trends including modest transit/rail increases 	<ul style="list-style-type: none"> Higher funding levels Greater flexibility at state/federal levels 	<ul style="list-style-type: none"> Major shift to HSGT and public transportation
Passenger Transportation	<ul style="list-style-type: none"> Increasing dominance of auto and air systems with increasing congestion Individually-based transportation 	<ul style="list-style-type: none"> More balanced intermodal system More creative and cooperative use of existing auto/air facilities More emphasis on public transportation Improved public transportation amenities and information 	<ul style="list-style-type: none"> Preservation of existing system Major shift to HSGT and public transportation
Freight Transportation	<ul style="list-style-type: none"> Continued dominance of trucking 	<ul style="list-style-type: none"> Increasing importance of rail for selected long-haul markets Targeted port strategy Enhanced intermodal connectivity Specialized treatment of containers Improved information and interlining facilitation 	<ul style="list-style-type: none"> Major shift to HSGT and intermodal coordination Major new New York and Canadian gateways

Scenarios by Policies (continued)

Policies	Scenarios		
	Current Policies	Moderate Change	Major Change
Growth Management Planning	<ul style="list-style-type: none"> Locally based Varied levels of transportation coordination Market driven within current government policies 	<ul style="list-style-type: none"> Demonstration-based approach targeted to specific new developments Growth centers Less reliance on property tax for municipal services 	<ul style="list-style-type: none"> Sub-regional approach consistent with state and regional transportation plans and processes
Travel Demand Management (TDM)	<ul style="list-style-type: none"> Voluntary TDM and state sponsored ridesharing programs 	<ul style="list-style-type: none"> Aggressive public agency internal programs Negotiated approach tied to new or modified development and infrastructure improvements Tax credits 	<ul style="list-style-type: none"> Mandates for all but small employers Routinely incorporated in operation of existing activity centers Incentive-based insurance and tax policies Urban parking constraints
Water Resources	<ul style="list-style-type: none"> Wetland protection on case by case basis 	<ul style="list-style-type: none"> Urban runoff regulations modified by Clean Water Act reauthorization Better state/federal coordination 	<ul style="list-style-type: none"> Systematic approach to wetlands protection and regional banking
Air Quality	<ul style="list-style-type: none"> Vehicle emissions control Voluntary TDM LEV standards 	<ul style="list-style-type: none"> More aggressive voluntary employer programs and growth management plans tied to specific infrastructure improvements Emissions control on heavy-duty and off-road vehicles 	<ul style="list-style-type: none"> Mandatory travel and growth management programs Increased use of public transportation services
Energy	<ul style="list-style-type: none"> Petroleum-based transportation system 	<ul style="list-style-type: none"> Contingency plans for petroleum supply interruptions Alternative fuels 	<ul style="list-style-type: none"> Reduction in long-term dependence on petroleum-based systems
Alternative Fuels	<ul style="list-style-type: none"> Current CAAA and NEPact large fleet mandates 	<ul style="list-style-type: none"> Greater commercial fleet participation 	<ul style="list-style-type: none"> Widespread penetration of personal and commercial markets

Scenarios by Policies (continued)

Policies	Scenarios		
	Current Policies	Moderate Change	Major Change
Telecommuting/ Teleconferencing	<ul style="list-style-type: none"> Technology-driven growth and small government demonstration projects 	<ul style="list-style-type: none"> Large public agency demonstration projects Greater private sector participation tied to specific infrastructure improvements 	<ul style="list-style-type: none"> Mandates for all but small employers Major growth industry
IVHS	<ul style="list-style-type: none"> Modest IVHS implementation in commercial sector 	<ul style="list-style-type: none"> Significant IVHS implementation where appropriate 	<ul style="list-style-type: none"> Full commercial and passenger IVHS implementation where appropriate

Scenarios by Mode

Policies	Scenarios		
	Current Policies	Moderate Change	Major Change
Highways	<ul style="list-style-type: none"> Inadequate system preservation funding Limited capacity expansion approved on individual basis 	<ul style="list-style-type: none"> Improved system preservation funding Capacity expansion based on defined criteria consistent with other public policies 	<ul style="list-style-type: none"> Full system preservation funding Capacity expansion primarily for intermodal connections and high occupancy vehicle facilities
Trucking	<ul style="list-style-type: none"> Modest IVHS implementation and regulatory standardization Increasing dominance of freight markets 	<ul style="list-style-type: none"> Full IVHS and regulatory standardization Some shift of long-haul markets to rail Improved intermodal coordination Enhanced clean/alternative fuel programs Improved technology 	<ul style="list-style-type: none"> Full IVHS implementation in personal vehicle market Major investment shifts to multimodal strategies
Intercity Bus	<ul style="list-style-type: none"> Continued rural abandonment or transfer to public operation Some urban growth due to HOV facilities Conversion to rail feeder services Selective expansion due to public investment 	<ul style="list-style-type: none"> Enhancement of rural services More extensive urban HOV facilities Greater conversion to rail feeder services in appropriate markets 	<ul style="list-style-type: none"> Fully integrated intermodal system
Passenger Rail	<ul style="list-style-type: none"> Northeast corridor improvements Boston to Portland completed Limited commuter rail expansion Limited tourist expansions 	<ul style="list-style-type: none"> Additional new intercity and commuter services Some recreational expansion and improved schedule coordination Enhanced New England connectivity 	<ul style="list-style-type: none"> Major commitment to HSGT Intermodal recreational system
Freight Rail	<ul style="list-style-type: none"> Limited double-stack improvements Increase in waste and hazardous material hauling 	<ul style="list-style-type: none"> More double-stack improvements Increased share of long-haul market and intermodal coordination 	<ul style="list-style-type: none"> Major shift to intermodal system

Scenarios by Mode (continued)

Policies	Scenarios		
	Current Policies	Moderate Change	Major Change
Airports	<ul style="list-style-type: none"> Continued delays and increasing congestion at Logan Conversion to smaller planes on some feeder services 	<ul style="list-style-type: none"> Regional system with intermediate services shifted to second-tier airports Fare equity across the system 	<ul style="list-style-type: none"> Intermediate services shifted to HSGT
Ports	<ul style="list-style-type: none"> Individual port planning and investment Increasing external competition Minor changes in ferry services 	<ul style="list-style-type: none"> Coordinated port planning and investment Meet challenge of external competition Increase in freight-related ferry services 	<ul style="list-style-type: none"> Centralized port planning and investment Meet challenge of external competition Increase in ferry services

List of Authors

Project Manager, Editor, Executive Summary, Intermodal Assessment	- Marc Cutler, Cambridge Systematics
Highways	- David Bohn, Vanasse Hangen Brustlin, Inc. Paul B. Smith, Vanasse Hangen Brustlin, Inc.
Intercity Buses	- Elizabeth Peart, Cambridge Systematics
Motor Carriers	- Carol Colman, Cambridge Systematics
Railroads	- Jan Okolowicz, Parsons Brinckerhoff
Airports	- Joakim Karlsson, Hoyle Tanner Associates
Ports	- Gerald Friedman, TAMS Consultants, Inc. Nathan Cherry, TAMS Consultants, Inc.
Travel Demand Management	- Elizabeth Peart, Cambridge Systematics
Financing	- Thomas Humphrey, Cambridge Systematics
Air Quality and Energy	- John Suurbier, Cambridge Systematics
Land Use	- James Purdy, Wallace Floyd Associates
Economics	- John Reed, Cambridge Systematics Debby Carr, Cambridge Systematics
Public Participation	- Kathy Stein-Hudson, Howard/Stein-Hudson Anne McKinnon, Howard/Stein-Hudson
NETI Librarian	- Jocelyn Shepard, Cambridge Systematics
